Rectal Surgery

Patients undergo rectal surgery for a number of conditions including: rectal cancer, polyps, inflammatory bowel disease (Crohn's disease and ulcerative colitis) and solitary rectal ulcer. Surgery to remove all of your rectum and the anus (back passage) is known as an abdomino-perineal excision of rectum (APER).

Traditional "open" rectal surgery procedures may require a single long abdominal incision. This usually results in an average hospital stay of a week or more and 6 weeks of recovery. Less invasive options are available to many patients facing colon surgery. The most common of these is laparoscopic surgery, in which smaller incisions are used. More recently, robotic surgery has been shown to offer additional advantages for patients requiring pelvic surgery, including rectal surgery (see Information on Robotic Surgery).

The Rectum

The colon refers to the lowermost part of the large intestine, which is part of the digestive tract. The intestine is a long, tubular organ consisting of the small intestine, the colon (large intestine) and the rectum, which is the last part of the large bowel. After food is swallowed, it begins to be digested in the stomach and then empties into the small intestine, where the nutritional part of the food is absorbed. The remaining waste moves through the colon to the rectum and is expelled from the body. The colon absorbs water and the colon and rectum hold the waste until it is ready to be expelled through a process known as defaecation. The rectum typically measures 15cm in length and is able to store 250-350ml of waste.

Laparoscopic Abdomino-Perineal Excision Of Rectum

A technique known as minimally invasive laparoscopic rectal surgery allows surgeons to perform many common rectal procedures through small incisions. Depending on the type of procedure, patients may leave the hospital in a few days and return to normal activities more quickly than patients recovering from open surgery.

In laparoscopic abdomino-perineal excision of rectum, surgeons operate through 4 or 5 small openings (each about a quarter inch), while watching an enlarged image of the patient's internal organs on a television monitor.

The term abdomino-perineal excision of rectum refers to the removal of all of the rectum and anus. Given that the anus is also removed, the procedure requires fashioning of a permanent colostomy (an opening that connects the colon to the surface of the abdomen) in all cases. Considering this, a stoma nurse will help teach you how to care for it before and after your surgery and decide with you where to site it on the abdominal wall.

One of the consequences of an APER is that a significant defect (hole) is created at the site where the back passage used to be. This has to be filled sometimes by a mesh or a musculo-cutaneous flap (tissue transfer) to prevent or reduce the chance of future herniation (perineal hernia).

Formation of a colostomy predisposes to the occurrence of a hernia around the bowel end brought up to the surface of the abdominal wall (parastomal hernia). The surgeon might

elect to use a mesh around the bowel to try and prevent this.

A laparoscopic APER usually lasts between 4 and 7 hours.

Advantages Of Laparoscopic Rectal Resections

Results may vary depending upon the type of procedure and patient's overall condition. Common advantages are:

- Less postoperative pain
- Generally shorter hospital stay
- Faster return to solid-food diet
- May result in a quicker return of bowel function
- Quicker return to normal activity
- Improved cosmetic results
- Less chance for developing an incisional hernia or adhesions
- Lower rates of wound infection

Are You A Candidate For Laparoscopic Rectal Resection?

Although laparoscopic colon resection has many benefits, it may not be appropriate for some patients. Typically, laparoscopic surgery might not be suitable for patients with:

- Significant obesity (BMI over 35)
- A history of prior abdominal surgery causing dense scar tissue (adhesions)
- Large tumors
- Certain respiratory or cardiac conditions
- Previous organ transplantation
- Disorders of coagulation (blood clotting)

Each patient will be offered a thorough and objective evaluation during her/his initial consultation with us to find out if the technique is appropriate for her/his condition.

Diagnostic Tests

Most diseases of the rectum are diagnosed with one of two tests: a colonoscopy or CT virtual colonoscopy. A colonoscope is a soft, bendable tube about the thickness of the index finger, which is inserted into the anus (back passage) and then advanced through the entire large intestine (see separate information sheet on Colonoscopy). A CT virtual colonoscopy is a special radiological investigation (scan) where the entire large intestine is imaged by the use of a CT scan and intravenous and intraluminal (within the bowel) contrast media. In addition, a CT scan of the chest, abdomen and pelvis may be necessary in cases of bowel cancer, inflammatory bowel disease or diverticular disease.

In patients with rectal cancer the tumour often needs to be locally staged by means of Magnetic Resonance Imaging (MRI) and Endorectal Ultrasound (ERUS) scans. A Positron Emission Tomography (PET) scan is sometimes required in cases where metastatic (distant) tumour spread is suspected.

Preparation For Surgery

Pre-operative preparation includes blood tests, medical evaluation, chest x-ray and an electrocardiogram (ECG), depending on your age and medical condition. In addition, patients with significant co-morbidity might be asked to undergo lung function tests and an echocardiogram (ultrasound examination of the heart). In high-risk patients a formal anaesthetic evaluation and cardio-pulmonary exercise (CPEX) testing will be performed. Blood transfusion and/or blood products may be needed depending on your condition and the amount of blood loss during surgery.

It is recommended that you shower the night before or morning of the operation.

In most cases, we want your colon and rectum to be completely empty before surgery. If this is the case, you must drink a special cleansing solution. You may be on several days of clear liquids, laxatives and enemas prior to the operation. If you are unable to take the preparation please let us know in advance. If you do not complete the preparation, it may be unsafe to undergo the surgery and it may have to be rescheduled.

After midnight the night before the operation, you should not eat or drink anything except medications that your surgeon has told you are permissible to take with a sip of water the morning of surgery.

Drugs such as aspirin, blood thinners, anti-inflammatory medications (arthritis medications) and Vitamin E will need to be stopped temporarily for several days to a week prior to surgery. Diet medication or St. John's Wort should not be used for the two weeks prior to surgery.

The amount of alcohol you drink can affect you during and after your surgery. It is important that you talk with us about your alcohol intake so that we can plan your care. Stopping alcohol suddenly can cause seizures, delirium, and death. If we know you are at risk for these complications, we can prescribe medications to help prevent them. If you drink alcohol regularly, you may be at risk for other complications during and after surgery. These include bleeding, infections, heart problems, and a longer hospital stay. Here are things you can do to prevent problems before your surgery:

- Be honest with us about how much alcohol you drink
- Try to stop drinking alcohol once your surgery is planned. If you develop a headache, nausea, increased anxiety, or cannot sleep after you stop drinking, tell your doctor right away. These are early signs of alcohol withdrawal and can be treated.
- Tell us if you cannot stop drinking.

People who smoke can have breathing problems when they have surgery. Stopping even for a few days before surgery can help. Please quit smoking for at least 48 hours before surgery and arrange for any help you may need at home.

How Is Laparoscopic APER Performed?

"Laparoscopic" or "Key-hole" surgery describes the techniques a surgeon uses to gain access to the abdominal cavity. A specialized camera called a laparoscope (a tiny telescope connected to a video camera) is inserted through a port (a narrow hollow tube like instrument) placed through the abdominal wall. At the beginning of the procedure, the

abdomen is inflated with carbon dioxide gas to provide a working space for the surgeon. The laparoscope transmits images inside the abdominal cavity, giving the surgeon a magnified view of the patient's internal organs on a television monitor.

Several other ports are subsequently inserted to allow the surgeon to work inside and remove part of the colon. At the end of the procedure the resected bowel is typically removed through the defect created by the removal of the anus, so no additional cuts are made on the surface of the abdominal wall itself.

What Happens If The Operation Cannot Be Performed Or Completed By The Laparoscopic Method?

In a number of patients the laparoscopic method cannot be performed. Factors that may increase the possibility of choosing or converting to the "open" procedure may include:

- Obesity
- A history of prior abdominal surgery causing dense scar tissue
- Inability to visualize organs
- Bleeding problems during the operation
- Large tumors

The decision to perform the open procedure is a judgment decision made by your surgeon either before or during the actual operation. When the surgeon feels that it is safest to convert the laparoscopic procedure to an open one; this is not a complication, but rather sound surgical judgment. The decision to convert to an open procedure is strictly based on patient safety.

What Should I Expect After The Surgery?

After the operation, it is important to follow our instructions. Although many people feel better in a few days, remember that your body needs time to heal.

When you wake up after your surgery, you will be in the Recovery Area. You will stay there until you are awake and your pain is under control. Most people return to their ward after 2-3 hours. Patients with significant pre-existing medical conditions will be transferred to the High Dependency Unit (HDU) or Intensive Care Unit (ICU) instead.

You will receive oxygen through a thin tube called a nasal cannula that rests below your nose. A nurse will be monitoring your body temperature, pulse, blood pressure, and oxygen levels.

You will have a Foley® catheter in your bladder to monitor the amount of urine you are making. You will also have compression stockings on your lower legs to help your circulation. They will be taken off when you are able to walk. You might also have 1 or 2 drains in your lower abdomen and perineum (the place were the back passage used to be) to drain extra fluid from the area; most of the time, the drains are removed after a few days.

You will be given medications to control your pain and keep you comfortable. There are different ways that these medications can be given:

- Epidural catheter: some people may get pain medication through an epidural

catheter in their spine
- Nerve block: some patients may get a nerve block before or during surgery. In a nerve block, your doctor injects medication into some of your nerves to reduce pain after surgery
- Intravenous (IV) medications: some people may get pain medication straight into a vein through their IV line
- Oral medications: some patients may get oral pain medications (medication that's swallowed, such as pills).

You may have one or more of these after your surgery. They're all effective methods to control your pain, and the Anaesthetist will talk with you before choosing the best one(s) for you.

We only use absorbable wound stitches so no stitches need to be removed after operation; this also ensures a very good cosmetic appearance. The wound becomes waterproof 24 hours after surgery, so you can shower or bath without fear after the second post-operative day.

You will be offered fluids shortly after your surgery. Following this you should then be able to eat and drink normally within 1-3 days.

Your bowel will usually start to make sounds after 1 or 2 days and you may have a bowel movement after 3 to 4 days. However, if this does not happen you should not be too worried. Bowel movements are different from one person to another. Usually, the first sign that your bowel is beginning to work is when you pass wind.

You are encouraged to be out of bed the day after surgery and to walk. This will help diminish the soreness in your muscles. You will probably be able to get back to most of your normal activities in one to two weeks time. These activities include driving, walking up stairs, working and engaging in sexual intercourse.

In most cases a follow-up appointment is organized within 2 weeks after your operation.

What Complications Can Occur?

Complications after rectal surgery are unfortunately not uncommon and include:
- Bleeding
- Infection (of the wounds, inside the abdomen, chest, bladder)
- Injury to adjacent organs such as the small intestine, ureter, bladder spleen; if the spleen needs to be removed (splenectomy) due to bleeding you will need to take daily antibiotics and have 3 annual vaccines for the rest of your life
- The nerves that control sexual function lie within the pelvis. Only a small number of people experience changes in sexual function (impotence, retrograde ejaculation) as a result of this surgery
- The nerves that control urination also lie within the pelvis. There is a small chance that you may have changes in urinary function. We shall make every effort to protect these nerves. However, a small number of people lose urinary control for a short period of time after surgery. If this happens to you, you may need to use a catheter for a longer amount of time after your surgery. Permanent loss of urinary control is uncommon.

- Blood clots in deep veins in your legs (deep vein thrombosis) that may travel to your lungs (pulmonary embolism)
- Incisional hernia (smaller rate than with conventional surgery)
- Adhesions (much smaller risk than with open surgery)
- Parastomal hernia (hernia around the ileostomy site; the risk might be higher than for conventional surgery)
- Perineal hernia (hernia at a site where the back passage used to be located; the risk might be higher than for conventional surgery).

It is important for you to recognize the early signs of possible complications. Contact us on 07968228831 or present to the Accident and Emergency Department if you notice severe abdominal pain, fevers, chills, or rectal bleeding.

A Guide For Patients With Colostomy

A colostomy is an opening in the belly (abdominal wall) that's made during surgery. The end of the colon (large intestine) is brought through this opening to form a stoma. Where the stoma will be on the abdomen depends on which part of the colon is used to make it. Some colostomies are large, some small; some are on the left side of the abdomen, some are on the right.

When you look at a stoma, you are actually looking at the lining (the **mucosa**) of the intestine, which looks a lot like the inside lining of your cheek. The stoma will look pink to red. It's warm and moist and secretes small amounts of mucus (slime).

The way the stoma looks depends on the type of colostomy the surgeon makes and on individual body differences. It may look quite large at first, but will shrink to its final size about 6 to 8 weeks after surgery. The shape will be round to oval. Some stomas may stick out a little, while others are flat against the skin.

Unlike the anus, the stoma has no valve or shut-off muscle. This means you won't be able to control the passage of stool from the stoma, but sometimes bowel movements can be managed in other ways. There are no nerve endings in the stoma, so the stoma itself is not a source of pain or discomfort.

After a colostomy has been created, the intestines will work just like they did before except:

- The colon and rectum beyond the colostomy are disconnected or removed.
- The anus is no longer the exit for stool, but it will still pass mucus from time to time. This is normal.
- Since nutrients are absorbed in the small intestine, a colostomy does not change how the body uses food.
- The higher up in the colon the colostomy is made, the shorter the colon is. The less time the colon has to absorb water, the softer or more liquid the stool is likely to be. A colostomy further down in the colon, near the rectum, will put out stool that has been in the intestine a longer time. Depending on the effects of illness, medicines,

or other forms of treatment, the longer colon can put out a more solid or formed stool.

- After surgery, some people still may feel urges and even have some discharge from the anus. This discharge is mucus, blood, and at times stool, left from the operation. If the rectum remains after surgery, it will keep putting out mucus that can be passed harmlessly whenever you have the urge.

While you have a colostomy, you might be at risk for having a bowel obstruction. A bowel obstruction happens when the bowel is partly or completely blocked. The blockage prevents food, liquids, and gas from moving through the intestines in the normal way. The blockage can be caused by food, scar tissue, or a twist in the bowel. Call us if you have any of the following signs or symptoms of a bowel obstruction:

- Tender and bloated stomach
- Abdominal cramping
- Nausea or vomiting
- Inability to pass gas or stool
- Decreased or no output from your colostomy

When To Call Your Surgeon

Be sure to call us on 07968228831 if you develop any of the following:

- Persistent fever over 38°C
- Bleeding from the rectum
- Increasing abdominal swelling
- Pain that is not relieved by your medications
- Persistent nausea and/or vomiting
- Chills
- Persistent cough or shortness of breath
- Purulent drainage (pus) from any incision
- Redness surrounding any of your incisions that is worsening or getting bigger
- Signs of dehydration (see above)
- You are unable to eat or drink liquids.